

DRAFT¹
SUMMARY OF MEETING ACTIONS²
FRAMEWORK MANAGER MEETING

May 23, 2006 [Noon – 5:00pm]

Stoel Rives, Suite 2600, Conference Room 11
900 SW 5th Ave

I. Objectives of the Meeting

- Define accomplishments, status and remaining work (including path forward) for Framework effort. Discuss implications for schedule.
- Agree on Round 3A and 3B work or define how agreement will occur.
- Agree on outline and controls of Round 2 report (Site Characterization Report).
- Review overall schedule in light of above.
- Define actions to prepare for June 13 Senior Managers Meeting.

Action Taken

- Objectives for the meeting were agreed to by the participants.

II. Technical Updates

A. ERA Update

The status reports and issues identified by the EPA Partners and LWG were reviewed and discussed (see Attachments 2 and 3).

Agreed to Actions

- The EcoMatrix Workgroup³ (EC WG) will do the following:
 - Finish the LOE by 5/31.
 - Finish the WOE key by 5/31.
 - Finish the WOE evaluation by 6/30.
 - Populate the WOE matrix by 7/31.
 - Resolve the following issues by 7/31, in coordination with the Managers Group:
 - LOE "grey areas"
 - TZW issues
 - 4 LWG issues identified in Attachment 3
- The data needs for the ERA will be identified by the LWG in the Round 2 Report.

¹ Subject to change after review by meeting attendees.

² Agenda for the meeting is at Attachment 1.

³ The participants on the EM WG are Bob Gensemer, Joe Goulet, Jennifer Peterson, and Lisa Saban.

B. Modeling Update

The status reports and issues identified by the EPA Partners and LWG were reviewed and discussed (see Attachments 4 and 5).

Agreed to Actions

- It was agreed that the Fate and Transport Modeling Workgroup⁴ (FTM WG) will do the following and that work on this topic will move forward on its' own path because the product is not needed to develop the PRGs:
 - Convene FTM WG [Who will convene the WG?] by May 31, 2006:
 - Before the FTM WG convenes, LWG will calibrate their hydrodynamics model.
 - Before the FTM WG convenes, Bruce will calibrate his model and complete the sensitivity analysis to identify data needs.
 - Determine what steps need to be done to complete the initial integration of the 2 models for the purpose of identifying Round 3B data gaps.
 - FTM WG will report at June 6, 2006 Framework Meeting and agreement will be reached on:
 - What steps need to be done to complete the initial integration of the 2 models for the purpose of identifying Round 3B data gaps.
 - FTM WG will provide written status report for this effort at the June 12, 2006 Framework Meeting [These written status reports should be provided to Eric B. by June 11 or earlier.]. The status report needs to address:
 - Status of the Work to Date
 - Issues that need to be Addressed
 - List of Next Steps for this Work
 - The initial integration of the LWG and EPA Partners models will be done by September 1, 2006.
 - The final integration of the 2 models will be completed by March 1, 2007.
- It was agreed that a Food Web Modeling Workgroup⁵ (FWM WG) will be convened and will do the following:
 - Agree on issues that need to be addressed (those in attachments 4 and 5 and any others they identify) by June 5, 2006. These include:
 - Chemicals to be modeled
 - Spatial scale
 - Model compartments
 - Provide a written status report for this effort to Eric B by June 5, 2006 and report to the Framework Meeting on June 6, 2006. The status report needs to address:
 - Status of the Work to Date
 - Issues that remain to be Addressed
 - List of Next Steps for this Work

⁴ The participants on the FTM WG are... [add names].

⁵ The participants on the FWM WG are Bruce Hope, Burt Sheppard, Nancy Judd, Ron Gouguet, Cindy Donahue, Lisa Saban, Rob P.

C. HHRA Update

The status reports and issues identified by the EPA Partners and LWG were reviewed and discussed (see Attachments 6 and 7).

Agreed to Actions

- The Manager Group agreed that the following issues will be substantively addressed in the Round 2 Report:
 - Surface water as drinking water source
 - TZW
 - Surface water (Note: The LWG has concern about using AWQCs for human consumption of fish.)
 - Bivalves (Note: The questions remains whether bivalves should be evaluated for human health.)
- The Manager Group agreed that the following issues will not be substantively addressed in the Round 2 Report, but the report will identify whether, when and how to address these issues:
 - Exposure of divers, etc... to sediments
 - Smallmouth Bass
 - PBTs in breast milk
 - PAHs and PBDEs
 - Biota sampling
- The Manager Group did not agree on how the following issue will be addressed in the Round 2 Report. The existing database will be examined to help make this determination:
 - Riparian soil
- A Human Health Risk Assessment Workgroup⁶ (HHRA WG) will be convened and do the following:
 - Address the issues that will be substantively addressed in the Round 2 Report. Provide a written status report for this effort to Chip H by June 9, 2006 and report to the Framework Meeting on June 12, 2006. The status report needs to address:
 - Status of the Work to Date
 - Issues that remain to be Addressed
 - List of Next Steps for this Work

III. Management Meeting

A. Round 3A/3B

The Round 3 data needs and related issues were reviewed and discussed. Attachments 8 and 9 address these needs and issues.

⁶ The participants on the HHRA WG are Laura K, Dana Davoli, and Mike P. Pam Bridgen will be kept in the loop on this work.

Agreed to Actions

- Site boundary and background definition were discussed. No conclusions were reached on this issue. Jim Anderson will memorialize the discussion points from the meeting as well as prior meetings for a discussion at the June 6, 2006 Managers Meeting.
- Attachment 8 lists several data needs as "Potential Round 3 data needs that LWG disagrees are needed (Discuss ASAP)." These will be discussed at the June 6, 2006 Managers Meeting in the context of the site boundary and background discussion that will occur.
- Should adult sturgeon and adult lamprey data collection be moved from Round 3B to Round 3A (see Attachment 8)? Jim McKenna agreed to take this issue to the LWG for consideration. He will be prepared for further discussions at the June 6, 2006 Meetings.
- Attachment 8 lists several data needs as "Round 3A (Discussions needed with agencies to determine need and/or scope)." The managers agreed to the following:
 - Additional Transition Zone Water (N&E) - This issue will be addressed as part of the TZW path outlined above (see agenda item II.A. above).
 - Additional COIs: Dioxins, PBDEs - This item will be removed from list.
 - MNR Sampling - This issue will be addressed as part of the F&T path outlined above (see agenda item II.B. above).
- Attachment 9 issues are resolved or being addressed above in these meeting notes.
- The managers agreed that the following events will need to be sampled in the 2006 field sampling season:
 - Summer low flow
 - Fall low river/stormwater runoff event
 - Winter high flow

B. CSM/ Report Outline

The Managers briefly discussed the status of the Round 2 Report outline (Attachment 10).

Agreed to Actions

- Eric Blischke agreed to check-in with the EPA partners to determine if they have any further comments on the outline. He will provide any comments to LWG by June 1, 2006.
- The following was not discussed and needs to be addressed:
 - LWG needs clarification if any further discussion is required regarding PRG and AOPC methods for Round 2 Report as specified in Eco and FS Frameworks.

C. Project Schedule

The managers discussed the short-term and overall schedule for the project.

Agreed to Actions

- Attachment 11 contains draft agenda items identified for the June 6th, 12th, and 13th meetings.
- Attachment 12 contains a revised schedule for Round 2 and Round 3 based on what the managers thought was realistic given the current status of work on the project.

- The managers also discussed the overall project schedule and determined that the milestone and final completion dates are probably not doable anymore. The overall schedule will be discussed by the managers at the June 6 and 12, 2006 Framework meetings in preparation for the report to the Senior Executives at the June 13, 2006 meeting.

D. Wrap-up and Action Items

- Eric Blischke - Notify EM WG of assignment and schedule. (see above agenda item II.A.)
- Eric Blischke - Notify FTM WG of assignment and schedule. (see above agenda item II.B.)
- Chip Humphrey - Notify FWM WG of assignment and schedule. (see above agenda item II.B.)
- Chip Humphrey - Notify HHRA WG of assignment and schedule. (see above agenda item II.C.)
- Jim Anderson - Site boundary and background definition were discussed. No conclusions were reached on this issue. Jim Anderson agreed to memorialize the discussion points from the meeting as well as prior meetings for a discussion at the June 6, 2006 Managers Meeting. (see above agenda item III.A.)
- Jim McKenna - Agreed to take following issue to the LWG for consideration: Should adult sturgeon and adult lamprey data collection be moved from Round 3B to Round 3A? (see above agenda item III.A.)
- Eric Blischke - Provide comments on Round 2 Report to LWG. (see above agenda item III.B.)

Attachment 1

AGENDA
Framework Issues Update and Next Steps
May 23, 2006
Noon – 5:00

Stoel Rives
Suite 2600, Conference Room 11
900 SW 5th Ave

Call in number

Non- Responsive


LUNCH – Please pick up your lunch upon arrival and then be seated at the conference table.

I. Objectives of the Meeting (All) [Noon-12:15]

- List to be considered will be compiled before the meeting.

II. Technical Updates [12:15 am – 1:45 pm]

- For each of the items the following will be discussed:
 - Accomplishments
 - Remaining work to be done
 - Schedule for remaining work
- A. ERA Update (All) [12:15-12:45]
- B. Modeling Update (All) [12:45-1:15]
- C. HHRA Update (All) [1:15-1:45]

III. Management Meeting [1:45 pm -5:00 pm]

- A. Round 3A/3B (All) [1:45-2:30]
 - Review list and identify how any issues will be resolved.

BREAK [2:30-3:00]

- B. CSM/ Report Outline [3:00-4:00]
 - How should this be put together to be of the best use.
- C. Project Schedule [4:00-4:30]
 - Does the overall schedule, including longer term items, fit together?
- D. Wrap-up and Action Items [4:30-5:00]
 - Address June 6th and 12th meeting agendas and senior managers meeting.

Attachment 2

Progress Report on ERA Weight of Evidence Framework Development 18 May 06

1. **Status.** EPA is leading development of a detailed weight of evidence (WOE) decision framework needed to rigorously evaluate the relative weight of each line of evidence (LOE) being used in the ERA for Portland Harbor. A draft version of the WOE framework tables were presented on May 9 by Jennifer Peterson (OR DEQ) and Bob Gensemer (Parametrix). Feedback from the group was generally positive, and a consensus was reached to continue development of the WOE framework for the ERA. It was further decided that EPA (Bob Gensemer, and Joe Goulet, leads) and DEQ (Jennifer) would lead the next round of framework development, with support and peer review from LWG (Lisa Saban, lead). This subgroup held an organizational conference call on 17 May, where it was decided that Jennifer would first work on the framework “key” and Bob would do a final QA check on the measurement endpoint table to be sure it is accurate and consistent with the WOE framework.
2. **Outstanding Issues**
 - Subgroup agreed that *measurement endpoint and LOE table* will still be maintained on a parallel path with the more detailed WOE framework tables. We still need to double-check its accuracy against the WOE framework, and to ensure that LOEs of most importance to making 3A vs. 3B data gaps decisions continue to be highlighted.
 - The *WOE “key”* (i.e., descriptions of each WOE attribute, definitions, and ranking schemes) needs to be reasonably complete before populating the detailed WOE framework tables for each receptor. This is the first priority for the subgroup at this stage.
 - Next step will be to *populate some of the WOE tables for one or two receptors* as a trial to evaluate whether the overall scheme or “key” are working as intended.
 - Next step after this example will be to do the detailed work of *populating the WOE framework tables for all receptors and LOEs*.
 - Still some disagreement on “grey areas” on LOE table. More detailed WOE tables should help resolve.
 - Transition Zone Water – further discussion required to resolve LOE and WOE for evaluation of transition zone water.
3. **Path Forward**
 - Subgroup hopes to have WOE “key” completed in draft form by the end of May
 - Subgroup hopes to have measurement endpoint table QA’d and completed by end of May. *It is thought that this table will be the primary means of facilitating 3A vs. 3B data gaps decisions.* The more detailed WOE framework tables would be helpful, but will require more time to develop than may currently be available to inform these decisions.
 - In June, subgroup will begin work on populating the WOE framework tables. Time required to fully complete this task is as yet uncertain, but we propose that the smaller subgroup continue to work together to expedite development of the draft framework as soon as possible.
 - *Overall goal is to have WOE framework completed in draft form by late June or early July if possible so that the EPA and LWG teams can review and revise in time for use/application in time for use in the Round 2 Comprehensive report.* Firm deadlines have yet to be established. Depending on the timing and extent of peer review needed for the framework, it may also be able to help inform 3A vs. 3B data gaps decisions.

Attachment 3

Ecological Risk Assessment (ERA)

LWG Comments – 5/19/06

Transition zone water (TZW) risk characterization: TZW will be integrated into the LOE matrix table. LWG and EPA need to come to an agreement how to characterize ecological effects associated with TZW, and to develop a decision matrix of TZW risk outcome. LWG agrees to compare TZW to AWQC and/or other effects-based screening levels.

Application of water screening levels: LWG and EPA need to resolve if water screening level values for the ecological risk assessment should be based on bioaccumulation values.

Seep water exposure: LWG and EPA need to discuss which seeps to include in the ERA and for which receptors and exposure pathways. LWG agrees the seep water data can be compared to AWQC or other effects-based screening levels.

Lines-of evidence: olfactory function in adult salmon – LWG does not agree olfactory-based TRVs should be used in the ecological risk assessment because (1) these TRVs can not be tied to survival, growth, and reproduction, and (2) this would be precedent setting. While we could include the TRVs and discuss the uncertainty in the risk assessment, it may cause a communication problem since this is more of a NRD issue.

Attachment 4

Progress Report on Modeling Approach

Status. During a meeting held on May 2, 2006, two approaches to the contaminant fate and transport modeling were discussed. Bruce Hope described EPA's proposed mass balance contaminant fate and transport model. Carl Stivers presented the LWG approach which relies on hydrodynamic sedimentation modeling and evaluation of key processes on a site or location specific basis. A conference call took place on May 17, 2006 to resolve the approaches. At the conference call the following approach was tentatively agreed to:

- Develop a hybrid approach that makes use of the LWG's EDFC hydrodynamic sedimentation model and the EPA fate and transport model being developed by Bruce Hope.
- Utilize the recently collected sedflume and settling velocity estimates as well as other site data to refine the hydrodynamic sedimentation modeling effort.
- Concurrently with the above step, get the EPA fate and transport model up and running use site data. Based on the results of initial model runs, identify additional data needs and/or refinements to the fate and transport model segments developed by EPA.
- Output from the EDFC model will be "chunked" to match the fate and transport model segments. The goal of the effort will be to use the EDFC model to estimate the flux of sediment and water in and out of each cell.

Issues: Issues that need to be addressed regarding this approach include:

- Data needs to support the approach (in-water data and upland contaminant load data – e.g., stormwater data)
- The mechanics of linking up the two approaches
- Level of effort required to link up the two approaches
- When to link the two approaches (soon based on initial runs of fate and transport model and calibrated hydrodynamic model or later once sedimentation model has been refined based on recently collected sedflume and settling velocity data)
- The ability of Stella to handle the increased computation
- How to account for specific processes (e.g., advective groundwater transport, prop wash)
- Schedule and timing.

Next Steps: The next steps are to

- Develop a better understanding of the pros and cons of this approach.
- Develop greater clarity on the expectations of the fate and transport modeling approach.
- Reach agreement on the objectives and tools for the fate and transport modeling effort.
- Discuss the application of the food web model and its relationship to the fate and transport model.

Attachment 5

Modeling

LWG Comments – 5/19/06

The following issues relate to development of the Arnot and Gobas FWM for use in the Round 2 Comprehensive Report only (other issues exist related to FS applications of the FWM and use of the FWM to identify data needs):

- Chemicals to modeled: LWG has proposed PCBs (total and congeners), dioxins/furans, and DDTs because these chemicals have been detected commonly in LWR tissue and sediment samples and the Arnot and Gobas model is recommended for hydrophobic organics. EPA and its partners have proposed a longer list including individual PAHs and metals.
- Spatial scale: LWG proposes application of the model for the purposes of the RBCT development on a site wide scale (e.g. RM 2-11) using surface weighted average sediment chemical concentrations. This facilitates maximum use of available data. EPA and its partners have proposed application of the FWM at smaller spatial scales (i.e. 34 segments) for FS applications such as evaluating remedial alternatives.
- Model compartments: LWG needs clarification on the preferences of EPA and its partners for model compartments (e.g. species to be modeled and how they are grouped) and the implications of this for treatment of input data (e.g. percent lipids) and comparisons to empirical tissue chemistry data for model performance evaluation. (This may have implications for Round 3 data collections needs).
- Model performance goals and approaches to calibration: LWG would like to come to agreement with EPA and its partners on specific performance goals for the model to be used for development of RBCTs (and ultimately PRGs). LWG proposes primary calibration of the model to be based on total PCBs. While performance may vary across chemicals, LWG would like to come to agreement with EPA and its partners on minimum model performance criteria for the application of the FWM for use in developing RBCTs.
- Programming: EPA and its partners commented that they would prefer the model be rewritten in VBA. Is the version provided by Jon Arnot (entirely in Excel) acceptable for application for the Round 2 Report?

Other:

- Reach final agreement on modeling methods/tools for each May 2 objective (i.e., matrix)
- Clarify path forward and timing for resolving details of “Hybrid Model Approach” (i.e., integration, potential refinements of chemical F&T portion, and ability to identify data gaps in time for Round 3B)
- Reach final agreement on use of the LWG Food Web Model (with revisions as necessary and required by EPA) for Round 2 Report PRG purposes

Attachment 6

EPA's list of outstanding issues for the Human Health Risk Assessment - May 22, 2006

Evaluation of exposure to in-water sediments by divers: EPA added direct exposure to in-water sediments for workers, boat fishers and divers. EPA believes that exposure to in-water sediments by workers and boat fishers has been resolved (pending review and approval of April 21, EPC and Exposure Factors TM). For exposure to in-water sediments by divers, EPA proposes performing a semi-quantitative analysis. EPA plans on working with Mike Poulsen of DEQ to develop a comparative analysis of diver exposure compared to other sediment exposure scenarios.

Surface water as a source of drinking water: The work plan calls for an evaluation of short-term exposure to surface water as a drinking water source for transients. However, EPA has determined that drinking water is a protected beneficial use of the Lower Willamette River (based on DEQ water quality rules). As a result, EPA has determined that MCLs are potential ARARs for surface water at the site. In our December 2, 2005 Round 3 Data Gaps Memo, EPA stated that surface water should be evaluated according to standard drinking water residential and work exposure scenarios. A path forward for resolving this issue has not been agreed to.

Transition Zone Water: EPA and the LWG have been engaged in discussions regarding human exposure to drinking water. At this time, TZW does not need to be treated as a drinking water source but should be screened against tap water PRGs and MCLs to ensure protection of surface water. EPA also believes that TZW should also be evaluated to protect human consumers of crayfish and bivalves through a comparison to fish consumption AWQC and/or site specific criteria developed to ensure that contaminants do not accumulate in crayfish and bivalves at concentrations that pose a threat to human health. At this time, the MCL and bivalve consumption issues remain unresolved.

Surface Water: Although EPA recognizes that human health risks due to fish consumption will be evaluated through fish tissue, EPA believes that surface water should be compared to fish consumption AWQCs adjusted to account for site specific fish consumption rates (i.e., 175 g/day). This is necessary in part because certain chemicals (e.g., VOCs) were not analyzed for in fish tissue. This issue remains unresolved.

Collection of Additional Smallmouth Bass Tissue: EPA believes that additional smallmouth bass tissue is required to represent the range of exposure across the site and support the HHRA. This issue remains unresolved.

PBTs in breast milk: This issue was mentioned as a future topic for discussion in Appendix C of the Programmatic Workplan. If a breast-feeding exposure scenario is included in the HHRA, the method to use to estimate exposure for an infant and how to characterize exposure and risk needs to be determined. EPA and DEQ are in the process of developing a proposal for evaluation of this pathway.

PAHs and PBDEs: EPA stated in the December 2, 2005 Round 3 Data Gaps Memo that any additional fish tissue samples include PBDEs and better detection limits for PAHs. This issue remains unresolved.

Attachment 7

Human Health Risk Assessment (HHRA)

LWG Comments – 5/19/06

Items for Which Resolution is Needed:

- Ingestion of bivalves: Decide whether to include ingestion of bivalves in the HHRA. If ingestion of bivalves is included, determine ingestion rates and exposure point concentrations (e.g., individual stations, site-wide) appropriate for Portland Harbor, as well as the species/data to be evaluated.
- Drinking water pathway: Decide whether to include ingestion of surface water by residents and workers (i.e., drinking water) in the HHRA. If ingestion of surface water is included, determine exposure point concentrations (e.g., individual samples, transects, site-wide) appropriate for Portland Harbor.
- Screening of TZW (direct exposure): Decide whether to screen TZW against MCLs and/or tap water PRGs and determine point of compliance (e.g., TZW, near-bottom single point surface water samples, surface water exposure point concentrations).
- Screening of TZW (bioaccumulation): Decide whether screening of TZW against AWQC for fish consumption should supersede tissue data (i.e., if chemicals are not detected in fish tissue or do not pose unacceptable risk via fish consumption but concentrations in TZW exceed AWQC, are the chemicals considered COPCs for the risk assessment?).
- Additional biota sampling: While there may be other reasons for sampling biota (e.g., EcoRA, FWM), decide whether additional biota samples are needed to complete the HHRA. If additional biota samples are needed, decide how data would be used in HHRA.

Items for Clarification/Additional Information Needed:

- Riparian soils: Clarify whether the request for riparian soil data includes the HHRA. Additional COIs (PBDEs): Clarify how PBDE data would be used to make cleanup decisions.
- PBTs in breast milk: Provide proposed methodology for assessing PBTs in breast milk.
- Diver scenario: Provide exposure assumptions to assess the diver scenario.

Attachment 8

Proposed General Timeframe for Scoping Potential Round 3 Data Needs¹ Portland Harbor RI/FS

ROUND 3A (Determine scope ASAP)

Sediment Traps (Draft FSP submitted)
Surface Water (Draft FSP in prep)
Upstream/downstream sediment to support site boundary, background, recontamination level determinations; and downstream extent of COIs migrating from the Study Area
Juvenile Lamprey
Pre-breeding Sturgeon

ROUND 3A (Discussions needed with agencies to determine need and/or scope)

Additional Transition Zone Water (N&E)
Additional COIs: Dioxins, PBDEs
MNR Sampling

ROUND 3B (Determine need and/or scope after Comprehensive Round 2 Report)

Sediment for AOPC Delineation
Additional FS Cores
Final Background Sediment/Surface Water
TZW: SPMDs
TZW: In-situ Bioassays
Sediment Toxicity Bioassays
Sediment Bioaccumulation Tests
Multiplate Invertebrate Tissue
Additional Clams or Mussels
Adult Sturgeon
Adult Lamprey
Crayfish
Sculpin
Smallmouth Bass
Pikeminnow, crappie, LS sucker
Gut contents - sucker, bass, pikeminnow, sturgeon (linked to fish tissue data collection efforts)
Fish Lesions (linked to fish tissue data collection efforts)
Zooplankton
Bird/Fish Eggs
Riparian Soil

Potential Round 3 data needs that LWG disagrees are needed (Discuss ASAP)

Sampling Upstream of the ISA to characterize potential sources or delineate upstream AOPCs (linked to upstream/downstream FSP above)
Upstream/Downstream Tissue (linked to upstream/downstream FSP and/or fish tissue data collection efforts above)
Downstream Sediment Data to characterize potential sources (linked to upstream/downstream FSP above)

*Additional COIs will be considered as appropriate for all FSPs

¹ – Potential Round 3 data needs identified by EPA in Identification of Round 3 Data Gaps dated December 2, 2005 and Proposed Round 3 Scope of Work dated February 17, 2006

Attachment 9

Round 3A and 3B Data Needs LWG Comments – 5/19/06

The scope and determination of the following proposed Round 3 data need resolution:

- Additional biota sampling – LWG wants to wait to sample additional tissue data (e.g., sculpin, crayfish) following Rd 2 data evaluation. EPA has proposed collection additional fish tissue (northern pikeminnow, crappie, and largescale sucker) to increase sample size from Round 1 sampling and for use in the FWM. LWG team does not think additional tissue data proposed for the FWM (i.e., northern pikeminnow, crappie, and largescale sucker) will change the results of the FWM or are needed for remedial decisions. Further discussion between EPA and LWG is needed on the rationale of sampling these fish species to have a “sufficient sample size”.
- Riparian soil sampling – The Agency team actually indicated that the proposed riparian soil sampling is sediment. From the technical perspective, if areas are mapped out, this may indicate need for a small number of new sediment or fish samples (LWG is not opposed to additional sediment collection). Further discussion is needed.
- Sampling of fish gut contents – LWG is under the understanding that the Agency team agrees we can look at current information (Chinook gut contents, work, clam tissue, multiplate tissue) to help refine the dietary model (as opposed to collecting gut tissue). However, if fish are collected, the agency team would like gut contents, regardless of the above evaluation. The LWG is not opposed to the collection of gut contents if additional fish are collected (following Rd2 data evaluation).
- Collection of fish lesion data– For any additional fish collected, LWG will document observations of lesions. However, resolution between LWG and EPA is needed on the interpretation of lesions.
- PRE comments: Further clarification is needed for the LWG technical team on several PRE comments (e.g., development of data rules, TRV selection process.)

Attachment 10

OUTLINE COMPREHENSIVE ROUND 2 SITE CHARACTERIZATION SUMMARY AND DATA GAPS REPORT⁷ [APRIL 14, 2006 VERSION]

Executive Summary

1.0 INTRODUCTION

Purpose of Report

Summary of Overall Objectives of the RI/FS (as defined in the AOC/SOW and the Work Plan)

Site Background (brief site description, site history)

Report Organization

2.0 SOURCES OF ENVIRONMENTAL DATA

- Pre-AOC
- Round 1
- Round 2
- Brief Description of Other Non-RI/FS Datasets

3.0 CONCEPTUAL SITE MODEL SUMMARY (BRIEF, HARBOR-WIDE SCALE)

- Physical (sediment stability, hydrology, introduce concept of “major physical environment areas of the river”)
- Chemical Sources, Release Mechanisms, and Transport Pathways to the Site
- Chemical Distribution and Potential Exposure Media
- In-River Chemical Mobility, Fate & Transport
- Human Receptors and Exposure Pathways
- Ecological Receptors and Exposure Pathways

4.0 PHYSICAL SETTING

- Land Use
- Geology
- Hydrogeology
- Surface Water Hydrology

⁷ Do Not Quote or Cite - This document is currently under review by US EPA and its federal, state and tribal partners, and is subject to change in whole or part.

- Physical System (bathy [include descriptions of dredging and other alterations to the system to support harbor activities], SPI, hydrodynamic modeling)
- Sediment Characteristics (grain size, stratigraphy)
- Habitat
- Human Access and Use

5.0 IDENTIFICATION OF SOURCES

- **ISA Sources** (table and river mile maps summarizing upland site summaries)
- **Upstream Sources** (Updated Work Plan lists of upstream sources, permits, land use, map)

6.0 IN-RIVER CHEMICAL DISTRIBUTION (MOSTLY MAPS & TABLES)

6.1 Sediment

- Define Nature and Extent data set (both “Historical” Non-LWG and LWG data through Round 2) -summary, main presentation in appendix)
- Horizontal and vertical spatial trends for indicator chemicals by major river environment areas (RMs 10-7, 7-5, 5-3, 3-2, Swan Island Lagoon and channel versus nearshore areas) w/ harbor-wide summary maps
- Sediment data presented = R1/2A/2A archived/2B, and post 1997 non-LWG data
- Time Trends of COIs in Sediment

6.2 Transition Zone Water and Groundwater Seeps

6.3 Surface Water

6.4 Biota

- Tissue Chemistry (R1 tissue, R2 Chinook, R2 multiplate, R2 benthic invertebrate)
- Comparison of tissue concentrations to other media concentrations

6.5 Upstream and Downstream Conditions

7.0 OVERVIEW OF FATE AND TRANSPORT PROCESSES

7.1 Source Processes

- Groundwater & Transition Zone Water (dissolved transport, facilitated transport, NAPL, attenuation processes, sediment loading, surface water loading)
- Seeps
- Stormwater
- Erodible soils
- Over-water releases
- Atmospheric deposition

7.2 In-River Processes

- Sediment (attenuation, burial, disbursement, sediment transport, hydrologic events)
- Surface Water

7.3 Food Web Model

8.0 INITIAL HUMAN HEALTH RISK EVALUATION SUMMARY

- Identify initial COPCs: Summarize those chemicals in sediment, surface water, groundwater seeps, and tissue that were identified as COPCs based on the available data selected for use in the HHRA.
- Identify receptors and exposure pathways: Summarize the receptors and exposure pathways selected for quantitative evaluation in the HHRA.
- Summary of initial risks: Summarize the results of the initial risk evaluation (non-cancer hazards and cancer risks as well as results of uncertainty assessment).
- Identify anticipated COCs: Summarize those chemicals and exposure pathways that will likely pose unacceptable risks to human health.

9.0 INITIAL ECOLOGICAL RISK EVALUATION SUMMARY

- Refine list of preliminary COPCs (from PRE) by receptor group based on additional data (e.g., surface water, benthic tissue, multiplate invert tissue).
- Identify receptors and exposure pathways: Summarize the receptors and exposure pathways selected for quantitative evaluation in the ERA (based on WP).
- Summary of initial risks: Summarize the results of the initial risk evaluation for each receptor group.
- Identify anticipated COCs: Summarize those chemicals and exposure pathways that will likely pose unacceptable risks to ecological receptors.

10.0 PRELIMINARY IDENTIFICATION OF AREAS OF POTENTIAL CONCERN

- Identify potential ARARs
- Use of Background
- Identify initial RBCTs
- Summarize process for identifying AOPCs (see Eco and FS Frameworks)
- Proposed AOPCs
- Harbor-wide Issues
- Site Boundary

11.0 CONCEPTUAL SITE MODEL

11.1 Harbor-wide CSM

- Background
- Site Boundary
- River-wide risk issues (fish and wildlife)
- Surface water
- Areas not covered by AOPCs

11.2 CSMS for Areas of Potential Concern

11.2.1 AOPC #1

11.2.1.1 Physical Setting

- Location of AOPC, nearby facilities introduced
- **Figure 1:** Photo base, AOPC outline, STA, bathy contours, adjacent upland sites, outfalls, navigation channel, seeps, LWG and non-LWG sediment, surface water, and biota sampling locations
- Bullet summary of current and historical operations of nearby facilities and potential sources (including overwater and upstream)
- Offshore characteristics (historical configurations, dredging history, shoreline, nearshore benches, shipping channel, STA, bathy changes, beach stake changes)
- Surface and subsurface conditions (stratigraphy).
- Onshore conditions (stratigraphy, aquifers, seeps, Upland Cross Sections extending into river)
- Hydrodynamic data

11.2.1.2 Chemical Distribution

Sediments

- Sampling history (Pre-LWG, LWG, other) including numbers of surface and subsurface sampling, reference to **Figure 1**.
- **Table 1.** Summary of chemical distribution (similar to Table 2 of the CSMs, with comparison to RBCTs added).
- **Table 2.** All data for AOPC (summary stats table here and an appendix organized by AOPC for ALL the data)
- **Concentration/frequency plots** for chemicals > criteria
- Discussion of chemical distribution (> criteria) by chemical
 - Lateral – **Maps** – COI concentration contours within AOPC
 - Depth – **Figures** – Cross-sections of COI chemical concentrations vs. lithology.

Benthic Toxicity

As above

Surface Water

As above

Transition Zone Water

As above

Other testing (e.g., sculpin, crayfish, clams)

As above

11.2.1.3 Potential Sources

- Overwater Discharge
- Surface Water/Stormwater/Overland Transport (including combined sewers and industrial point discharges)
 - Table for each outfall
 - Catchment area plots
 - Table – Outfall ID, permit type and status, outfall size, outfall material, status, predominate discharge
- Groundwater
 - Plume Maps
 - COIs

- Seeps (locations, potential or detected COIs)
- Riverbank Erosion
 - Locations
 - COIs
- Sediment Transport
 - Upriver sediment chemistry
 - Sedimentation
 - Erosion
 - Settling/Resuspension
 - Chemical transformation, redox
 - Biological processes
 - Sorption

11.2.1.4 Relationship of Upland Sources to Chemical Distribution

The general discussion should include the extent of elevated COIs in sediment, surface water, transition zone water, and biota, and their potential relationship to the above sources

11.2.1.5 Human Receptors and Potential Exposure Pathways

Discussion on human receptors and potential exposure pathways presented by AOPC noting that most human exposures are described as either harbor-wide or by human use area (e.g., beaches).

CSM Figure

11.2.1.6 Ecological Receptors and Potential Exposure Pathways

Discussion of preliminary identification of location-specific risk areas (AOPCs) and Site-wide risks by receptor.

CSM Figure

12.0 DATA GAPS AND ADDITIONAL DATA NEEDS

Harbor-wide Data Gaps

Nature & Extent

Human Health Risk

Ecological Risk

Feasibility Study

Source ID (Including: are there upland sources and pathways without expected in-river impacts?)

Data Gaps for AOPCs

N&E at AOPCs

ID Sources & pathways at AOPCs

Risks at AOPCs

APPENDICES (NOT A COMPLETE LIST)

1. Regressions (e.g., fines to COI concentrations)
2. HH Initial Risk Evaluation
 - Data Evaluation: Discuss data selected for use in HHRA and identify initial COPCs
 - Exposure Assessment: Identify receptors and exposure pathways for quantitative evaluation, describe process to calculate exposure point concentrations, and present calculated intakes.
 - Toxicity Assessment: Present toxicity information for COPCs.
 - Risk Characterization: Calculate cancer risks and non-cancer hazards. Present in context of uncertainty.
 - Uncertainty Assessment: Summarize uncertainties in risk evaluation and overall impact on risks.
 - Summary and Conclusions: Present those chemicals and media that are likely to pose unacceptable risks based on results of initial risk evaluation.
3. Ecological Draft Risk Evaluation
 - Problem formulation: Summary from Work Plan (receptors, assessment endpoints, exposure pathways, assessment measures)
 - Data Evaluation: Discuss data (tissue, toxicity, water, sediment) selected for use in ERA to identify initial COPCs
 - Exposure Assessment: Calculation/presentation of exposure for various exposure pathways (e.g., tissue, dietary, water) by receptor group (benthic inverts, fish, amphibians/reptiles, birds, mammals, plants)
 - Effects Assessment: Present toxicity metrics for COPCs, including TRVs, AWQC or other water SLs, and summary of development of sediment quality values (SQVs) from benthic predictive approach
 - Risk Characterization: Quantitative risk assessment (compare exposure estimates and toxicity metrics), qualitative risk assessment (e.g., for aquatic plants) and risk discussion
 - Uncertainty Assessment/Data Gaps: Summarize uncertainties in risk evaluation and overall impact on risk estimates.
 - Summary and Conclusions: Present ecological COPCs and preliminary identification of areas (including maps) potentially posing unacceptable risks to ecological receptors based on results of risk evaluation.
4. Usability of historical data
5. CDs with various databases

6. Addenda to Upland Site Summaries
7. Modeling documentation
8. Derivation of RBCTs

Attachment 11

Agendas for Scheduled Framework Meetings

[May 26, 2006 Version]

June 6, 2006 Framework Meetings

Technical Meeting

- Modeling
 - Fate and Transport - Agree to what steps need to be completed for initial integration for purpose of determining Round 3B data gaps.
 - Food Web - Discuss 5 issues on May 19, 2006 LWG Modeling Comments.
 - Loose Ends [This needs to be defined before the meeting.]
- Should adult sturgeon and adult lamprey data be collected in R3 A or B (McKenna)

Managers Meeting

- Overall Schedule
- Site Boundary and Background (Anderson)
 - Also address Potential R3 data needs that LWG disagrees are needed under this agenda item (see Potential R3 Data Needs sheet)

June 12, 2006 Framework Meetings

Technical Meeting [10:00-2:00]

- Status Reports
 - LOE/WOE
 - Modeling
 - Round Report Scope/Schedule
 - Budget
 - HHRA WG update
 - Round 3A and 3B issue on adult sturgeon and adult lamprey

Managers Meeting [2:00-5:00]

- Agree on LOE matrix, if possible
- Finalize Round 3A and 3B list
- Identify how any remaining issues will be resolved
- Overall Schedule
- Prepare for June 13, 2006 Meeting

June 13, 2006 Senior Executives Meeting

- Expectations of Round 2 Report
- Site Boundary and Background
- Schedule
 - Are we on track?
 - Risk of meeting deadlines?

Attachment 12

Schedule for Round 2 and 3 Elements of the Project⁸

[May 26, 2006 Version]

<u>TASK</u>	<u>COMPLETION DATE</u>
Resolve any specific changes to BSAF approach	6/15/06
Agree on water screening level for human health and Eco	6/15/06
Populate WOE matrix	6/30/06
Resolve any changes to food web model	7/31/06
Determine benthic toxicology threshold values	7/31/06
Check-in on status of 5 critical elements	6/30/06 [7/31/06?]
Check-in - AOPCs presentation; start Round 3B data gap discussions	9/30/06 [10/31/06?]
Round 2 Report complete	11/30/06 [2/15/07?]
Round 2 Report roll-out	1/15/07 [3/1/07?]
EPA review R2 Report in preparation for field sampling plans (FSPs)	2/14-4/15/2007? ⁹
Round 3 sampling	Fall 2007

⁸ Highlighted items are a potential alternative schedule that might be considered for the process.

⁹ This alternative schedule would assume: 1) streamlined review of FSPs, 2) that FSPs would be available in Spring 2007, and 3) that the FSPs would be rolling versions. The FSPs would include Surface Water, TZW-SPWD, and TZW-Bioassay.